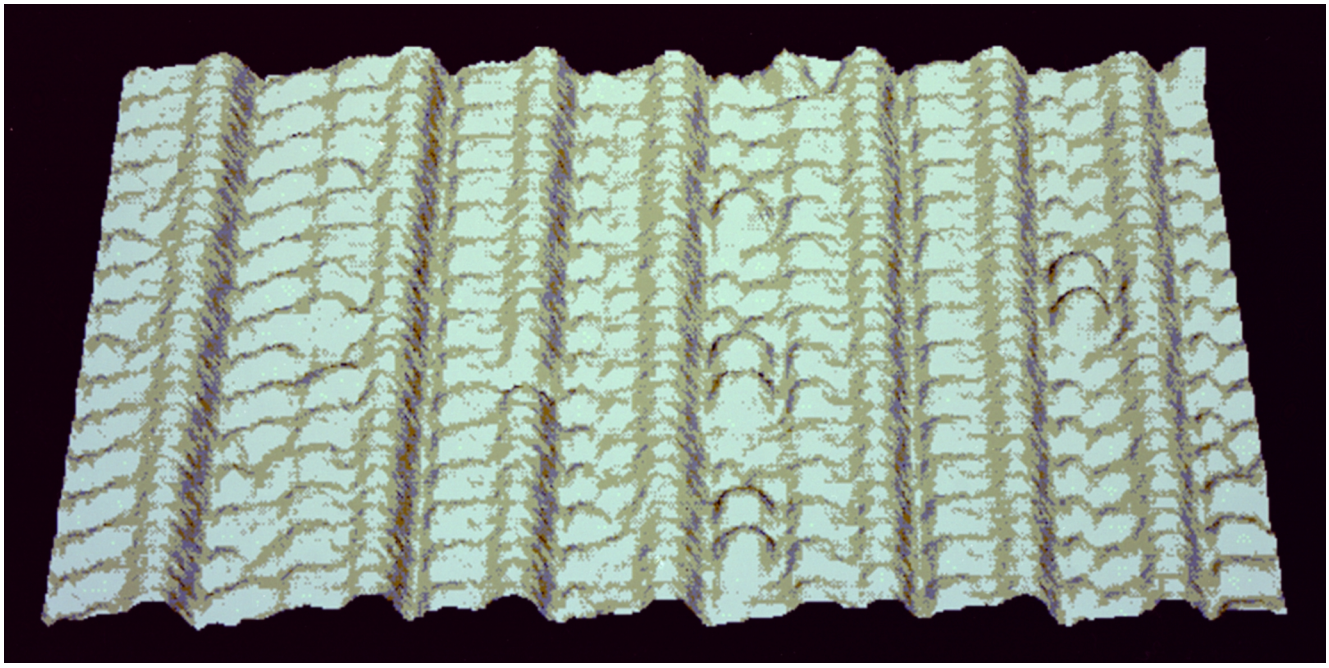
SCANNING TUNNELING MICROSCOPY



STM image (13 nm $\times$ 11 nm) of a newly discovered stable surface of silicon

Scanning tunneling microscopy/spectroscopy is a powerful analytical tool that enables scientists to acquire images of surfaces with atomic-scale resolution. These images provide information on the structural, chemical, and electronic properties of surfaces. This technique is being used at the Naval Research Laboratory (NRL) to investigate the structure and reactivity of metal and semiconductor surfaces, the fabrication of novel semiconductor and magnetic superlattices, and lithography for nanometer-scale electronic devices. Scientists at NRL are also exploring possible applications of the tunneling microscope for the development of ultrasensitive sensors.

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